

The Clarity Series

Creating Passionate Learners

Engaging Today's Students
for Tomorrow's World

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CHAPTER 1

An Introduction to Creating Passionate Learners

THE EDUCATIONAL ANACHRONISM

In 1950, nearly 50 percent of American adults smoked cigarettes. By 1970, it had fallen to 38 percent. Today, the number is less than 20 percent. What happened? In 1950, research was published in a prestigious American medical journal (Wynder & Graham, 1950) and a prestigious British medical journal (Doll & Hill, 1950) that raised serious questions about the link between smoking and cancer. By the early 1960s, scientific consensus formed; legislation was passed requiring packages to include warning labels and limiting how cigarettes could be advertised. In 1988, the Federal Aviation Administration banned smoking on airplanes. In 2002, the first state passed legislation that banned smoking in public places. Only recently did one of the nation's top *health-care companies stop selling cigarettes*.

Of course, it is common knowledge today that cigarettes cause cancer, cardiovascular disease, and respiratory disease. But in 1950, it was a *truth* that adults have a right to smoke. It was only

with research, perseverance, and time that people were able to let go of a set of habits that were justified through antiquated beliefs, norms, and routines about cigarettes. When the idea that *smoking isn't harmful* was refuted, the argument gave way to this: But adults have a right to make their own choices. When the adults-have-a-right-to-make-their-own-choices argument was refuted by research on the impact of secondhand smoke, it became widely acknowledged that the chasm between research in the public interest about smoking and policy in the public interest about health could no longer stand. The “truths” of past policy and practice lagged 50 years behind the truths of empirical evidence and research.

An anachronism is the placement of an object or behavior that is clearly out of place in modern times. Imagine walking into the offices of a booming Internet start-up and being greeted by a secretary with a typewriter and a rotary phone on her desk: anachronism. She greets you, and if you are a man, she asks if she can take your hat: anachronism. If you are a woman, she asks if you are here to drop off lunch for your husband: anachronism. Today, to see someone smoking on a plane or in a restaurant or in a school would be no less of an anachronism than our out-of-step secretary. Research, beliefs, norms, routines, and policy eventually converged in a manner that makes the idea of smoking in these spaces feel as though they are from a bygone era that is completely out of step with modern times.

We believe that education sits at a similar crossroads. There is a growing chasm between research in the public interest about learners and learning and policy in the public interest about schools and schooling. The truths about the purpose of schooling and the truths about how schools have to operate are rooted in a set of habits that are justified by deeply held beliefs, norms, and routines that served schools in a bygone era. As evidence mounts about the skills and dispositions students will need to be successful learners through the 21st century, many of the policies and practices that guide the efforts of educators and learners through the process of schooling are like ashtrays in armrests: omnipresent but anachronistic.

In this book, *Creating Passionate Learners*, we argue that much of knowledge and many of the skills and dispositions that have been accepted as truths about the purpose of schooling in the last

100 years no longer serve learners' needs in the digital age. We argue that many policies and measures of accountability of schools are not only irrelevant in the 21st century, but they are counter to the public interest. We argue that *what* students learn in school may be less important than helping students understand *how* they will learn when they are not in school. We advocate for systems that focus on building student's engagement rather than coaxing students into compliance. We advocate for curricula that are student centered. We advocate for instructional strategies that support student autonomy.

BEYOND THE NEXT MANDATE

Amid the winds of change that are currently blowing through K–12 education in the United States—new standards, new assessments, new evaluation processes, and new accountability measures—classroom teachers and instructional leaders are suffering from initiative fatigue. Each one of these initiatives seems to require a new set of understandings, skills, and strategies in order to be implemented effectively. Amid this fatigue, many educators are asking the same question: How can we be aware of, let alone effectively implement, all of these new, different sets of expectations?

Far from the shores of the United States, John Hattie of the University of Melbourne, Australia, has been wrestling with an even larger question: What instructional practices have the most profound impact on student learning? In one of the most ambitious educational studies ever completed, Hattie (2009, 2012) went about the process of answering this question. Through a synthesis of meta-analyses, more than 53,000 educational studies with a sample of more than 83 million students were considered. He then rank-ordered the impact of more than 400 different practices. Taking the synthesis a step further, he reached a startling conclusion. There are, he argues, two factors that explain a large portion of the influence that schools have on student learning:

- Learning occurs most effectively when each teacher sees his or her classroom through the eyes of his or her students.
- Learning occurs most effectively when each student sees himself or herself as his or her own best teacher.

The symmetry—and the elegance—of these statements are remarkable. What if Hattie’s synthesis provides an answer that transcends our collective fatigue? What if, amid our collective initiative fatigue, we became so focused on the next mandate that we lost sight of students and their learning as the reason for our craft?

While mandates are used to establish the *external* targets to measure *achievement*, it is the *internal*, day-to-day interactions between teachers and students that create a context for *learning*. At the core of the interactions in school and life that result in improved learning is a single concept: engagement. Engaging with others is how we learned to speak, survive, and thrive. When teachers and students are deeply engaged in their work, they both embrace the challenges and opportunities of learning. When teachers and students are disengaged from their work, learning becomes a didactic, transactional chore—if it occurs at all.

For too long, classrooms, schools, districts, states, and the feds have focused on improving education by establishing and tracking goals that are easy to measure rather than those that are most important to measure. It is comforting to believe that we can reduce the cumulative effects of a child’s education to an attendance log and a test score. It is harder to monitor and measure the extent that a student is curious, persistent, open-minded, and tenacious. But is it any less important? What if, rather than focusing on test scores as the purpose of school, we strove to achieve a higher calling; what if the goal of school was to create passionate learners?

THE INTENT OF POLICIES AND THE ENSUING DEBATES

The politics of test-score-driven accountability legislation such as No Child Left Behind, incentive grants such as Race to the Top, and initiatives such as the Common Core State Standards have been the subject of discussion and debate in Congress and state legislatures and among school boards around the country. Talk radio, televised pundits, and editorial boards have discussed the opportunities and liabilities associated with these initiatives. No

Child Left Behind *expired in 2007*. Absent meaningful federal legislation, the Department of Education created grant programs to encourage states to move forward with sweeping changes related to standards, assessment, and teacher evaluation.

At the core of the intent of these initiatives are accountability and consistency. Policies and incentives related to consistency are driven by this question: *How can we ensure rigorous criteria for quality across schools, districts, and states?* Policies and incentives related to accountability are driven by this question: *What incentives and consequences will ensure that students, teachers, and schools obtain the desired results?* At the core of the debates around these policies and initiatives are evidence and validity. The first debate is focused on the question: *How can we ensure appropriate evidence is utilized to evaluate teacher and student performance?* The second debate is focused on the question: *Who has the right to determine the validity of content standards and assessments?* These four questions have resulted in a robust national dialogue about states' rights, local control, accountability, privacy, and public- versus private-sector employment. Unfortunately, many of the arguments and claims that have framed this dialogue have fallen squarely along politically partisan lines.

Two components seem to be missing from this discussion. First, there has been little dialogue about the assumptions that underlie the intent of these policies. This is important; if we fail to analyze the assumptions that underlie our beliefs about how systems work, a completely rational policy can be put into place that fails to address the meaningful components of that system. Second, in grand educational policy debates that gravitate toward political interests and partisan ideology, endless print and airtime can be used to talk about adults' interests, adults' needs, and adults' concerns. By failing to analyze assumptions or to ensure the debate transcends partisan bickering, students and their needs have been missed entirely in this debate.

Ultimately, students should derive the greatest benefit from discourse, policy, and practice about improving schools. Yet there is a growing sense that the assumption that test scores can be raised by doling out rewards and sanctions for teachers, schools, and states is not only wrong, but it is harmful for kids. Marc Tucker, president of the National Center for Education and the

Economy (2014), captures this sentiment well in his argument that teachers see beyond test score results to their students as

people whose potential will forever remain locked inside themselves until they can believe in themselves and their possibilities, people for whom their relationships to other people loom far larger than their obligations to turn in their homework, people whose curiosity and eagerness to prove themselves against the challenges of growing into adults are much more important than their score on a test. (p. 13)

Perhaps systems that strove to help learners find their passions, supported each child's capacity to persevere through challenge, and guided each child's efforts to develop strategies that supported their learning in a variety of contexts would yield more positive, long-term results. But these are skills and conditions that are not emphasized as important inputs or as meaningful outputs on large-scale tests and thus are given less emphasis in dialogue, programs, and policies at the local, regional, and national levels.

ASSUMPTIONS DRIVING THE CURRENT CONTEXT

To understand our current context, it is important to consider where we've been. Many "big ideas" from the end of the 19th and the beginning of the 20th centuries are so ubiquitous in our systems of education that we forget that they are *a way*, and not *the way*, of organizing institutions for teaching and learning. Among the most prominent of these ideas are scientific management, the measurement of intelligence, and behaviorism.

The Influence of the Industrial Revolution and Scientific Management

Industrial growth in the late 1800s gave rise to demographic trends in the United States that resulted in larger, more complex municipalities that required larger, more complex school systems. While the industrial revolution drove this change in the size and

complexity of schools and districts, it also had a profound effect on how schools were organized and managed.

In the 19th century, schools emphasized the basics of reading, writing, and arithmetic. Additionally, schools were seen as a means to preserve moral values (Spring, 2011). Students' days included recitation, drills to memorize passages of text or build fluency in mathematical operations, and oral quizzes. Government officials saw the opportunity for schools to help students conform and comply with rules, believing that controlling students' actions would make them more likely, as adults, to obey government laws (Spring, 2011). Students who conformed in school did well. Conversely, students who did not respond well to this system found many doors shut. After the Civil War and through Reconstruction, there was tremendous variability in structure, expectations, and curriculum across the United States. Absent a uniform set of expectations for schooling, professional schools and universities would have no way of identifying which candidates had met their criteria for admissions.

In 1892, a group of 10 men established the uniform system of grade levels, courses, and credits that still guide the structure of most high schools today. Six representatives from higher education, three high school administrators, and a representative from Washington, D.C., responded to calls for more consistency, rigor, and quality in American schools by establishing a 12-grade system consisting of eight elementary grades and four years of high school. The committee established a sequence of math, English, language, and science courses for all students. The amount of seat time required for students to earn a credit that would count toward college admission was established at this time as well. More than 120 years later, the decisions of this *Committee of Ten* continue to frame the structure of schooling in America.

Shortly after the Committee of Ten laid their foundation, Frederick Taylor (1911) published his theories of scientific management. Taylor's work emphasized measurement of efficiency and effectiveness of factory workers as a means to improve production. He argued that, if there were 100 ways to perform a task, some methods would be more efficient than others. By studying the various ways a task such as shoveling coal could be performed, *the one best method* could be determined. The scientific manager's

role was to implement and monitor these data-driven approaches to improve organizational quality. Taylor's ideas had a profound impact on American organizations; the ideas resonated with engineers, business owners, *and* educators.

Ellwood Cubberley (1922), who literally wrote the book on American public school administration, led a movement to legitimize a science of education by applying Taylor's theories of management to schools. Cubberley described how Taylor's principles could be used to guide school effectiveness. He unabashedly described the role of schools and factories as analogous stating that "our schools are, in a sense, factories in which the raw products (children) are to be shaped and fashioned into products" (Fine, 1997, p. 338).

The industrial revolution and principles of scientific management created a way of schooling in America that emerged from and is analogous to the innovations of the early 1900s. There is tremendous economic utility in rolling uniform products off of an assembly line in batches. Division of labor, organizational efficiency, standardization, and bells signaling when a shift has ended became the hallmarks of manufacturing and schooling at the dawn of the 20th century.

The Influence of Measurements of Intelligence and Behaviorism

If Taylor's principles of scientific management were to be applied to schools, educators needed an approach to most efficiently elicit and measure the product at the core of schooling: student achievement. Psychologists such as Louis Terman and R.M. Yerkes were up to this task (Gould, 1981). In the early 1900s, a science of educational psychology and measurement of intelligence was also taking shape. These pioneers in the field of psychometrics developed tests that measured a variety of intellectual abilities in an attempt to develop valid, reliable methods to quantify intelligence. Furthermore, these tests were used to determine the individuals who possessed the intellectual capacity to accomplish tasks associated with different roles in military service, identify the most intelligent individuals in society in order to provide opportunities to those individuals to reach their potential, and predict which students would be most successful in various academic programs.

These tests were designed under the assumption that intelligence is a *fixed characteristic*. The premise of intelligence, and the intelligence quotient (IQ), as a fixed entity claimed that individuals were born with a set amount of intellectual capacity and there was little that could be done to change that capacity. One could learn new information and improve mastery of a specific subject, but intelligence itself was stable. These fixed intelligence theorists argued that those with higher IQs would learn faster, and more deeply, than those with lower IQs.

New theories of learning were emerging in the early 1900s as well. Ivan Pavlov and Edward Thorndike argued that learning occurs most efficiently through a process of trial and error that is accelerated or inhibited by the relationship between a stimulus and a response (Gould, 1981). At the core of these behaviorist theories was the premise that, if you want more of something, reward it, and if you want less of something, punish it. The greater the intensity of the satisfaction or discomfort from the response, the more quickly the behavior would be either developed or extinguished. In studies on animals, these theories were roundly supported with empirical research. Using these behaviorist principles, mice could be taught to run through mazes, and rats would learn to pull levers for food. When humans were involved in routine, repetitive tasks—whether in a factory or in a school—their behavior could be shaped by a manipulation of rewards and punishments in a similar manner. The learner doesn't need to understand what he or she is doing nor why he or she is doing it. The only thing that matters is that he or she is trained to accomplish a task.

How Scientific Management and Measurement Influence Our Current Educational Context

Scientific management and behaviorism have had a profound impact on the assumptions that have established the set of conditions that are widely accepted as necessary, central components in the institutionalization of assembly lines and schools.

- Both systems strive for *uniformity*. Everyone follows a specific set of processes in order to ensure the output of uniform products. There is little or no need for individuality or creativity.

- Both systems seek *compliance*. Whether or not individuals are executing a designated process and following the rules is more important than whether or not people understand why they are engaged in a process or why they are doing what they are doing.
- Both systems emphasize a *culture of behaviorism*. A person's purpose for accomplishing any task is determined primarily by the tangible rewards directly associated with completion of that task. If the rewards are not enough incentive to complete the task, the person will be punished.
- Both systems emphasize *productivity*. The quantity of work produced by any one individual—as long as it meets certain standards for quality—is deemed more important than producing less work over a longer period of time even if the work is of greater sophistication or complexity.

The placement of these internal conditions as the premise of an industrialized system at the dawn of the 20th century is rational and justifiable. Uniform productivity on an assembly line requires compliance; there is one right way. Behaviorism and its associated rewards and punishments work quite well when individuals are asked to do repetitive, disassociated tasks similar to those on an assembly line. But are these components still relevant as the driving forces in organizations in the 21st century? Should these components continue to be the driving forces *for schools* in today's information and service economy? Should these components continue to be the driving forces for schools as they prepare a generation of learners who will retire sometime around the year 2060?

AN ALTERNATE PREMISE: A HUMANIST APPROACH TO EDUCATION AND COGNITIVIST APPROACHES TO LEARNING

For critics of the industrial model of education, *the school as factory* and the *child as a score* were in direct contrast to their call for approaches to schooling that support each child as an individual with unique learning needs. Educators in support of schools and systems that support each child as an individual are well documented in

advance of the push for scientific management and behaviorism that guided decisions about schooling in the United States in the early 1900s.

In his article “Where We Came From: Notes on Supervision in the 1840s,” Arthur Blumberg (Blumberg & Blumberg, 1985) discusses some of the extensive field notes written by superintendents in an 1845 document titled the “Annual Report of the Superintendent of Common Schools of the State of New York.” Their words include a clear awareness of, and the need to create, classrooms built around learners and learning.

On effective teachers:

To tell one of the secrets of their success, they endeavor to make the interest of their pupils their interest. (Blumberg & Blumberg, 1985, as cited from original source, 1845, p. 74)

On effective instruction:

The old and almost useless method of teaching almost everything “by rote,” is fast giving way to the inductive and analytical system of instruction. Children are taught that they are intellectual beings, that they are endowed with capacities and powers of the mind. (Blumberg & Blumberg, 1985, as cited in original source, 1845, p. 265)

*These statements were made 150 years ago, but they were sup-
planted by the efficiency of scientific management.* They precede John Dewey’s arguments for democracy in education by 50 years. They precede the cognitive revolution—whereby psychologists considered the role of an individual’s thought processes, language, logic, and deductive reasoning as a set of human functions that transcend behaviorism’s explanations of reward or punishment or stimulus and response—by more than 100 years.

John Dewey was one of the most prolific writers and thinkers in the field of education in the early 20th century. In his book *Democracy and Education*, Dewey (1916) argued that democracy, not scientific management, was the conceptual underpinning of human progress. Rather than seeing schools as a training ground for efficiency and productivity, Dewey argued that schools were a place where students should practice citizenship and further

develop the ideals of democracy. Ideas such as a student-centered education, connecting the classroom to the real world, differentiation based on student learning needs, and integration of content areas were espoused by Dewey as ways of bridging the gap between children's passive roles as students and the active roles they would need to play as citizens.

Democracy and individuality were important values in American society after World War II. Dewey's emphasis on democratic ideals received renewed interest and attention in the field of education. Additionally, new research by individuals such as Jean Piaget (1923, 1947), Jerome Bruner (1960, 1966, 1996), and Noam Chomsky and Carlos Otero (2003) formed the basis of a cognitive revolution in psychology. The cognitivists argued that the individual's role in making meaning was a more powerful force in influencing human motivation than approaches that relied on behavioral manipulation. Democratic and cognitivist ideals were conceptual antidotes to inoculate against the tyranny that led to World War II. The specter of schools built on a premise of blind obedience to authoritarian rewards and punishment or the notion that schools should be built on blind devotion to efficiency over humanity were contrary to what Americans had fought against.

The emphasis on cognition over behaviorism and humanism over authoritarianism was evident in the educational literature at this time. For example, in William Burton, Leo Brueckner, and Arvil Barr's (1955) *Supervision: A Social Process*, they described a new set of premises to guide thought and action in classrooms and schools by stating:

Our older concepts of human nature and its limitations are giving way to newer knowledge which indicates the possibilities and growth of all individuals. Research in biology, medicine, anthropology, psychiatry, psychology and in education itself open [sic] up new hopes and aspirations in the area of human growth and development. Creativity becomes more important than molding individuals to conformity. The authoritarian and coercive school must give way to a democratic institution that achieves its ends through cooperation and participation of all who are concerned with the growth and development of learners. (pp. v-vi)

This statement is remarkable because it captures the essence of the argument we will build upon in this book. It captures the tension between old premises and assumptions and more contemporary premises and assumptions. Unfortunately, while the argument was made 50 years ago, its potential remains largely unfulfilled.

FROM PAST PRACTICE TO NEXT PRACTICE: NEW ASSUMPTIONS FOR SCHOOLS IN THE 21ST CENTURY

Like the American and British medical journals in the 1950s that described the dangers of smoking well before the act of smoking became an anachronism, the quote from Burton et al. (1955) above captures a set of beliefs about schools and learning that have been—and continue to be—affirmed in research. Unfortunately, many of these older concepts of human nature were so central to the 20th-century frameworks of science and commerce that formed our current conceptualization of schooling in the United States that these anachronistic ideas still permeate the form and function of our schools. There are three central tensions in this quote that lay between the anachronistic beliefs about human nature and capacity at the turn of the turn of the 20th century and the best evidence about those claims today.

Tension 1: Fixed, Single-Dimensional Beliefs About Intelligence Versus Incremental, Multidimensional Beliefs About Intelligence

Anachronism: There is a single, fixed trait called intelligence; some people have it, and some people don't. This older concept of human nature is rooted in pseudoscience and elitist ideology from the 1800s and the early 1900s (Gould, 1981).

Best evidence: Intelligence is multidimensional, and human capacity for intelligence rests on a nearly limitless, resilient, malleable, biological platform (Dickmann & Stanford-Blair, 2009; Gardner, 1983; Sternberg, 2005). Remarkable new skills and understandings can be built by anyone with access to external supports to build new strategies for learning (Duckworth, Peterson, Matthews, & Kelly, 2007; Ericsson, Krampe, & Tesch-Römer, 1993).

Tension 2: Behaviorist Beliefs About Compliance Versus Cognitivist Beliefs About Motivation and Engagement

Anachronism: Human behavior is motivated almost solely by a desire to obtain external rewards and to avoid punishments. Behaviorism is rooted in sound research from the first half of the 20th century (Skinner & Belmont, 1993). However, these findings were most robust when shaping behavioral habits or asking individuals to engage in repetitive tasks that have little intrinsic meaning (Pink, 2009).

Best evidence: If you want more of a behavior, consider the relevance and meaningfulness of that behavior as related to one's physiological, social, emotional, and cognitive needs and interests. Individuals choose to engage in, or avoid, tasks depending on the relevance of the task, their belief that they can be successful in accomplishing the task, their belief that their work is important and of value, and their belief that they will be supported if they are not successful (Ariely, 2013; Bandura, 1995; Dweck, 2000; Pink, 2009).

Tension 3: Controlling Behaviors to Determine Another's Action Versus Autonomy Supportive Behaviors to Guide Individual Growth

Anachronism: If an individual needs to learn, then the learner must depend on the teacher to do so; the teacher must select what will be learned, when it will be learned, how it will be learned, and ultimately assess that individual to render a judgment as to whether or not learning has occurred.

Best evidence: If a teacher wants to motivate individuals to achieve, then allow them the opportunity to exercise autonomy, find their own meaningful reasons to engage in the work they value most, and give them the opportunity to build ownership by determining their pathways toward mastery (Ryan & Deci, 2000).

We believe that the gap between the test-driven and accountability-driven system of schools we have today is a result of the inability to place some of these antiquated beliefs about children and learning in the dustbin. Absent a focus on the best evidence of research on intelligence, motivation, and cognition

from the last 65 years, we are doomed to address the same questions about accountability and sanctions that we have in the past and end up back where we started in the first half of the 20th century: schools designed to look like factories and produce students who are prepared to work passively on assembly lines in factories.

We believe a system that consciously tends to the contemporary best evidence to guide efforts to support children and improve learning will focus on four key components.

1. Engage students in a culture of learning that is committed to finding solutions to problems that children see as meaningful and filled with purpose.
2. Engage students in tasks that they are motivated to accomplish because they spark students' curiosities and address their needs to develop and master new, relevant content and skills.
3. Engage students in opportunities to make choices about the work they do in a manner that builds ownership of their own learning and supports their needs for independence and autonomy.
4. Engage students in the habit of productive internal dialogue that is responsive to feedback as a catalyst to develop new skills and strategies that develop their capacity to be effective in any domain they choose.

We believe that a system that utilizes these four components as a catalyst for school reform will not only transcend the rush to gain compliance among today's transactional mandates, but it will support the needs of the passionate learners we aspire to serve.